Amflow®

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INSTALLATION, OPERATION & SERVICE MANUAL

AMFLOW®
A2-ACM VALVE ACTUATOR
(BELT DRIVE)

Part Number: 00000222-0501

NOTE
Reference the “As Built” data sheet supplied with order for specific actuator configuration.

A & H Enterprises, Inc. reserves the right to make modifications and/or improvements to ***Amflow®*** products without prior notice.

Explanation of Graphic Symbols

DANGER AND/OR WARNING
The exclamation point within an equilateral triangle surrounded by red is intended to alert the user to the presence of important operating and maintenance instructions that may cause personal injury or harm to the system.

CAUTION AND/OR IMPORTANT
The exclamation point within an equilateral triangle that is solid yellow with an exclamation point is intended to alert the user to use caution or contains important information.

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SECTION 1: INFORMATION

1.01 DESCRIPTION

The ***Amflow***® A2-ACM Actuator is a DC gear driven motor actuator designed to accommodate a variety of ***Amflow***® products in hazardous area usage. Part compatibility includes; AM7 Series, AM8, AM11A flow control valves and the PR7 Series and PR-HF-SSSP back pressure regulators.

The ***Amflow***® A2-ACM Actuator is designed to be panel mounted, reference Section 1.09 and 1.7. Note that the orientation is not important. Once the ***Amflow***® A2-ACM Actuator is installed the valve can be screwed onto the valve ADAPTER and locked in place with a 6mm set screw. The Inlet and Outlet ports of the valve will then need to be connected to the system.

1.02 DESIGN FEATURES

- Normal module operation includes valve position, current limit, pressure & flow feedback.
- Manual over-ride lever.
- Low maintenance.
- Environmentally sealed.

1.03 MECHANICAL FEATURES

- Enclosure: 316L Stainless Steel with powder coating
- Adjustable Torque Setting
- ATEX Certification: DNV 2007 OSL ATEX-1498
- Certification Category: **II 2 G Ex de IIC T4**
- Degree of Protection: IP66
- Weight: 33 lbs. (15 Kg)
- Optional Cable Glands: M20x1.5

Amflow® **A2-ACM Actuator: Electrical Specifications**

	Motor	Watts	Max. Operating Current	Max In-Rush Current	Manual Override	Communication
A2-ACM 00000222-0501-014	DC Gear	24 VDC 30 Watts	1.25 amps (continuous)	3.0 amps	Yes	• Industrial Ethernet • Hart / 4-20mA • H1 FOUNDATION fieldbus • Modbus RTU / RS485 • Modbus TCP

1.04 COMMUNICATION PROTOCOLS

- Circuit board: Main motherboard with interchangeable daughter boards.
- Remote access from host computer for control, monitoring, and configuration.
- Available Communication Protocols:
  - ❖ INDUSTRIAL ETHERNET
  - ❖ HART/4-20mA
  - ❖ H1 FOUNDATION fieldbus
  - ❖ MODBUS RTU / RS485
  - ❖ MODBUS TCP
- Ethernet Protocol: IEEE 802.3 - 10T/100T

These protocols provide ease of use in the field with their own embedded web pages eliminating third party communication devices. Refer to the Circuit Board Manual provided with order for information and issues regarding communication.

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1.05 SAFETY INFORMATION

SAFETY INFORMATION

- Follow IEC when working with electrical units.
- When handling product avoid dropping, damaging, or submerging.
- Ensure proper wiring.
- Person(s) handling circuit board should be properly grounded.
- Do not open unit while energized.

1.06 ASSEMBLY VIEW

Amflow® A2-ACM Actuator

Amflow® A2-ACM Actuator
Shown with
Motor Housing

Amflow® A2-ACM Actuator
Transparent View

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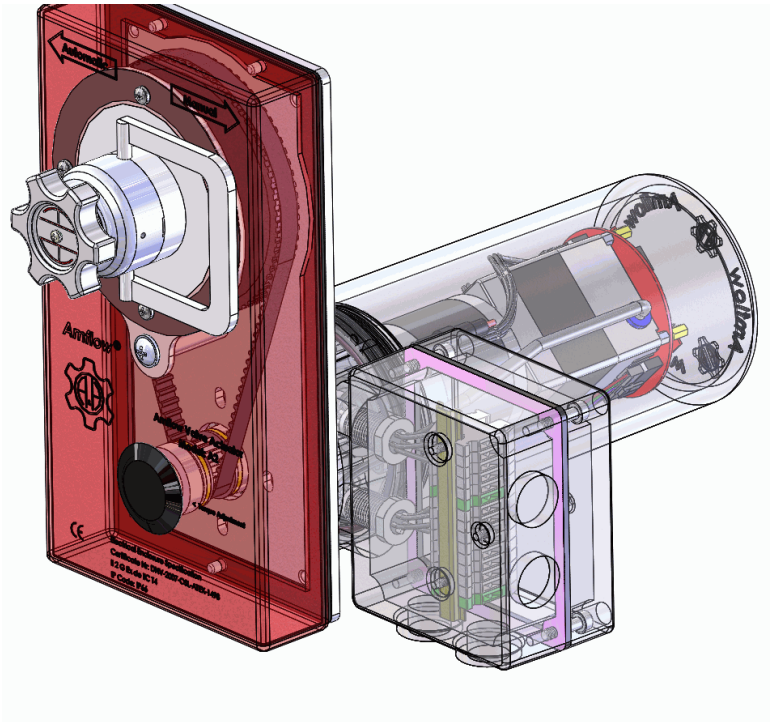
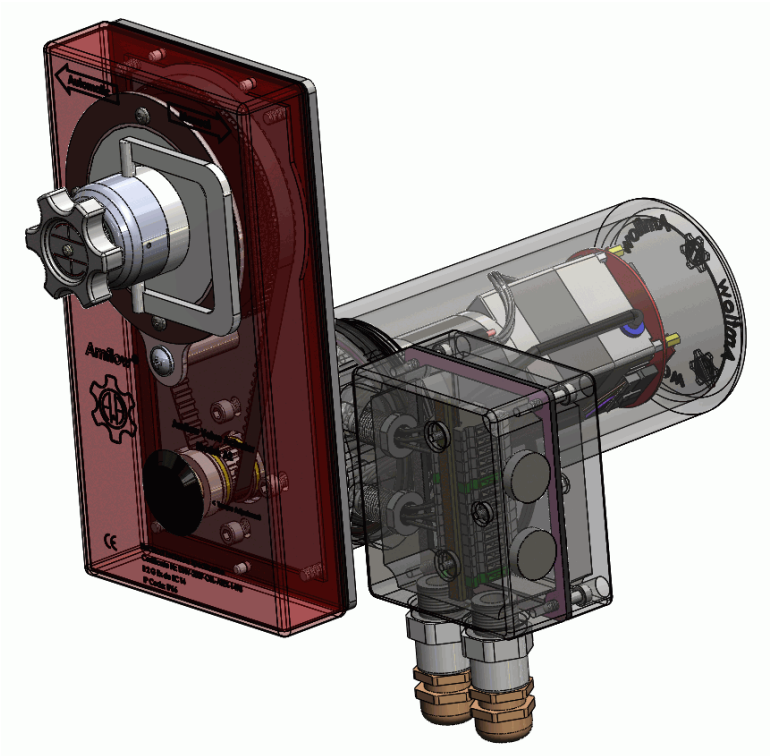
1.07 ASSEMBLY VIEW: Transparent



AMFLOW® A2-ACM ACTUATOR
Transparent View with Motor Housing



AMFLOW® A2-ACM ACTUATOR
Transparent View with Motor Housing
and Optional Cable Glands

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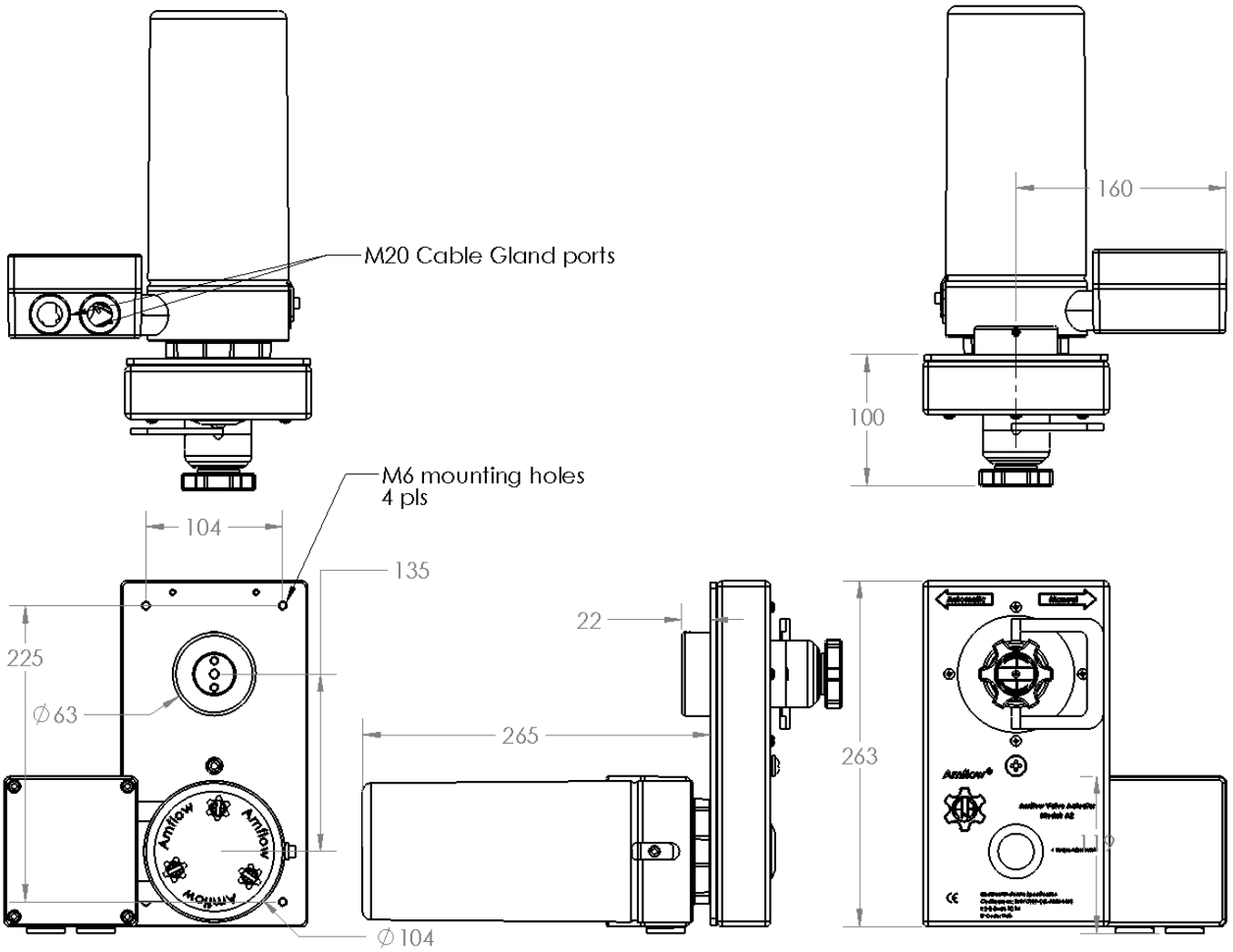
1.08 GA DRAWING



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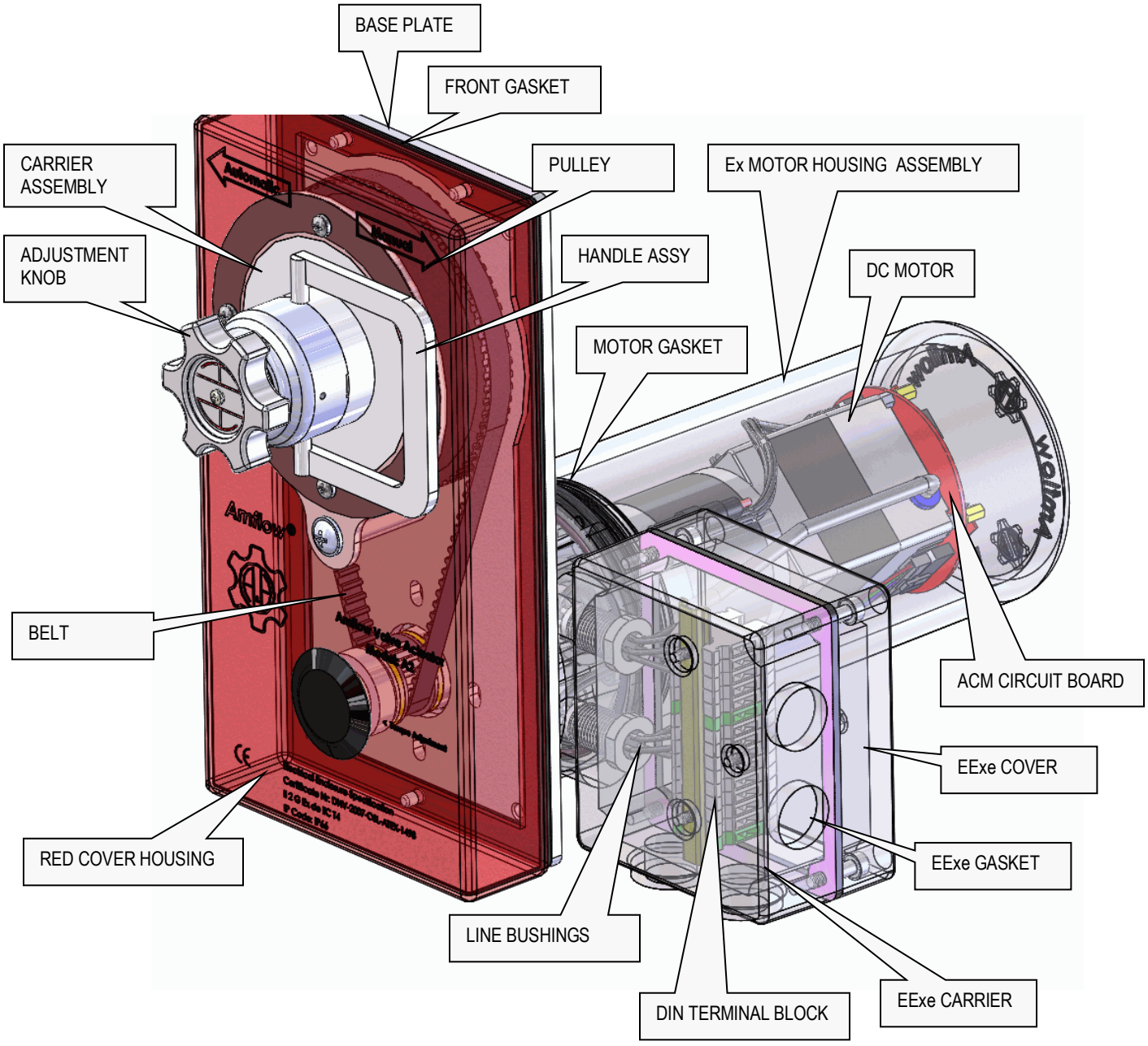
1.09 FULL VIEW



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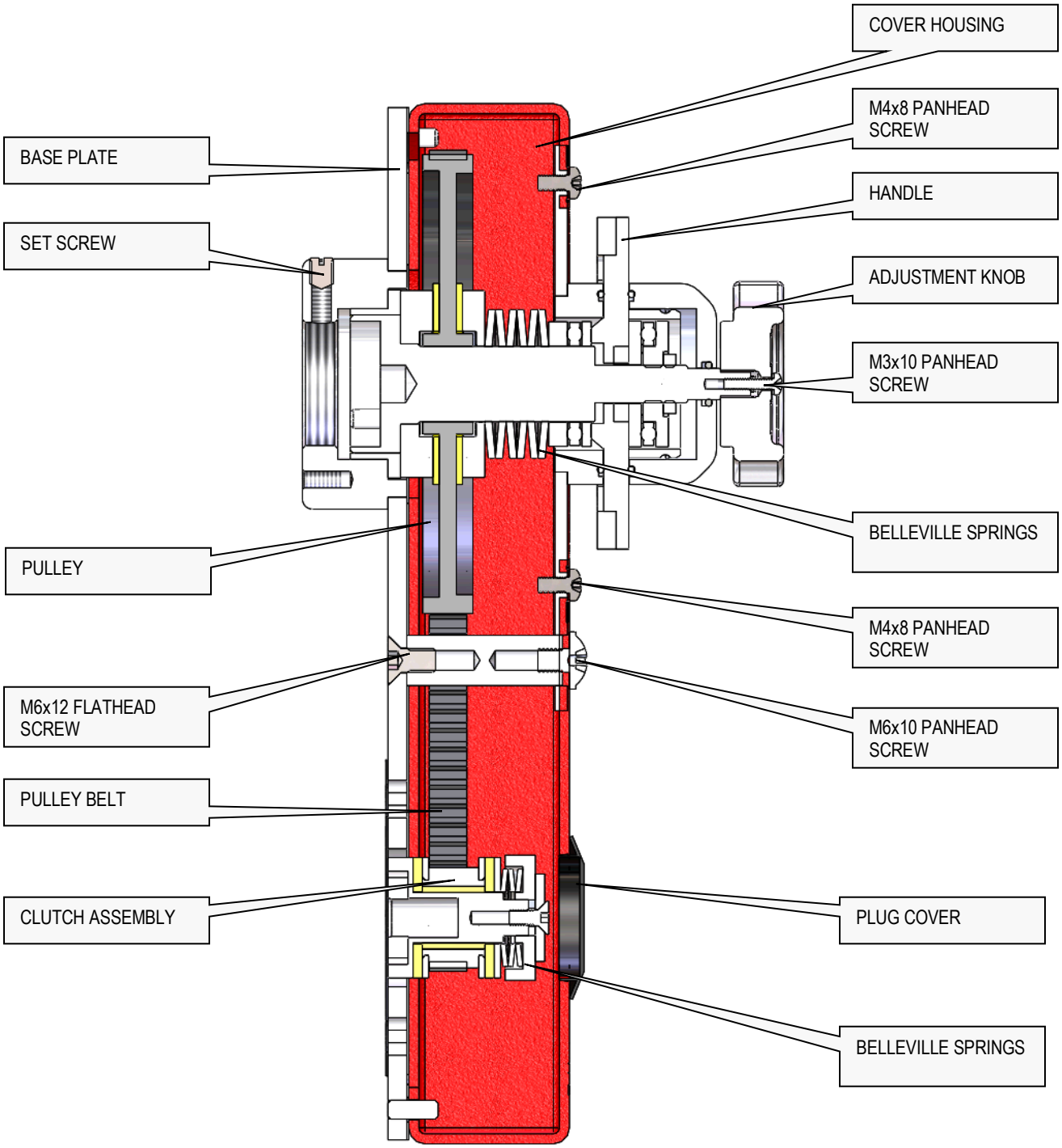
1.10 CUT-AWAY VIEW: Belt Drive Assembly (Red Box)



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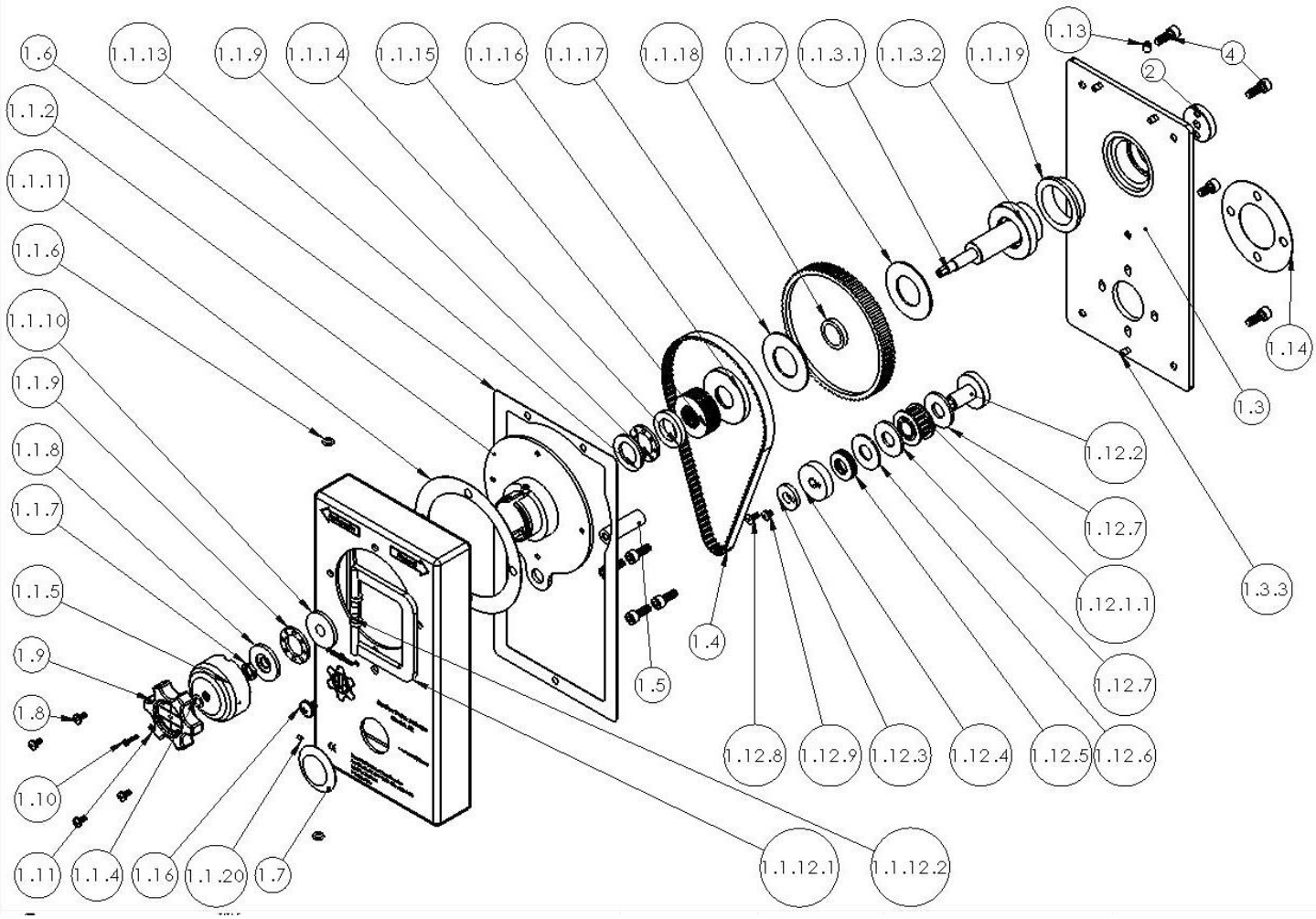
1.11 EXPLODED VIEW: Belt Drive Assembly (Red Box)



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1.11a BOM: Belt Drive Assembly (Red Box)

ITEM #	PART #	DESCRIPTION	QTY
1	00000805-0501-000	A2-DCM Belt Drive Housing	1
1.1	00000254-0401-000	Carrier Assembly	1
1.1.1	00000241-0301-000	Carrier	1
1.1.2	00000243-0301-000	Carrier Ring	1
1.1.3	00000264-0401-000	Shaft Assy	1
1.1.3.1	00000262-0301-000	Shaft	1
1.1.3.2	00000263-0301-000	Shaft Disk	1
1.1.3.3	00000276-0301-000	Shaft Drive Pin	2
1.1.4	00001555-2011-000	Carrier Cap O-Ring	1
1.1.5	00000242-0301-000	Carrier Cap	1
1.1.6	00001555-2010-000	Handle O-Ring	2
1.1.7	00000239-0301-000	Lock Nut	1
1.1.8	00000237-0301-000	Bearing Nut	1
1.1.9	00000287-0301-000	Bearing	2
1.1.10	00000238-0301-000	Bearing Sleeve	1
1.1.11	00000285-0301-000	Front Gasket	1
1.1.12	00000252-0401-000	Handle Assy	1
1.1.12.1	00000227-0301-000	Handle	1
1.1.12.2	00000235-0301-000	Cam	2
1.1.13	00000278-0301-000	Bearing Plate	2
1.1.14	00000236-0301-000	Slide Sleeve	1
1.1.15	00001600-1500-072-00-0755	Belleville Spring	6
1.1.16	00000234-0301-000	Friction Bushing	1
1.1.17	00000231-0301-000	Friction Pad	2
1.1.18	00000232-0301-000	Pulley	1
1.1.19	00000240-0301-000	Shaft Bearing	1
1.1.20	00001500-7303-004-00	M3 x 4 Setscrew	1
1.2	00000804-0301-000	Cover Housing	1
1.3	00000803-0401-000	Base Plate Assy	1
1.3.1	00000801-0301-000	Base Plate	1
1.3.3	00000276-0301-000	Locating Pin	3
1.4	00000802-0301-000	Belt	1
1.5	00000807-0301-000	Stand-off	1

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ITEM #	PART #	DESCRIPTION	QTY
1.6	00000822-0301-000	Carrier Gasket	1
1.7	00000256-0301-001	Cover Plug	1
1.8	00001500-7104-008-00	M4x8 Panhead	4
1.9	00000122-0301-000	Adjustment Knob	1
1.1	00001500-7103-010-00	M3x10 Panhead	1
1.11	00001500-8003-000-00	M3 Lockwasher	1
1.12	00000832-0401-000	Clutch Drive Shaft Assy	1
1.12.1	00000350-0401-000	Drive Pulley Assembly	1
1.12.1.1	00000347-0301-000	Drive Pulley	1
1.12.1.2	00000348-0301-000	Pulley Bushing	1
1.12.1.3	00000349-0301-000	Pulley Flange	2
1.12.2	00000245-0301-000	Clutch Shaft	1
1.12.3	00000360-0301-000	Spring Loader Retainer	1
1.12.4	00000250-0301-000	Spring Loader	1
1.12.5	00001600-1000-050-00-0505	Belleville Springs	3
1.12.6	00000249-0301-000	Clutch Washer	1
1.12.7	00000246-0301-000	Clutch Ring	2
1.12.8	00001500-7204-010-00	M4 x 10 Flathead Screw	1
1.12.9	00001500-7404-006-00	M4 x 6 Buttonhead Screw	1
1.13	00001500-7306-008-00	M6 x 8 Setscrew	1
1.14	00000286-0301-000	Motor Gasket	1
1.15	00001500-7206-012-00	M6x12 FH	1
1.16	00001500-7106-010-00	M6 x10 PH Screw	1
2	00000275-0301-000	Shaft Adaptor	1
4	00001500-7006-016-00	M6 x 16 SHCS	8

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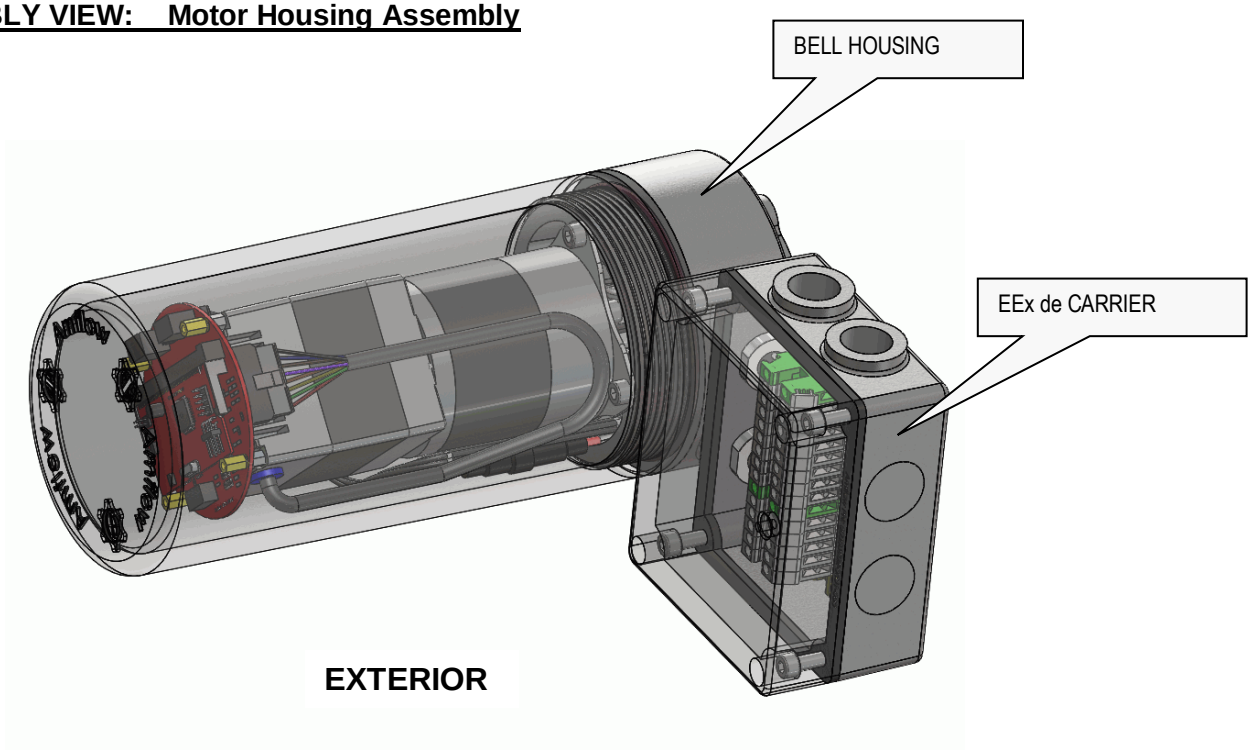
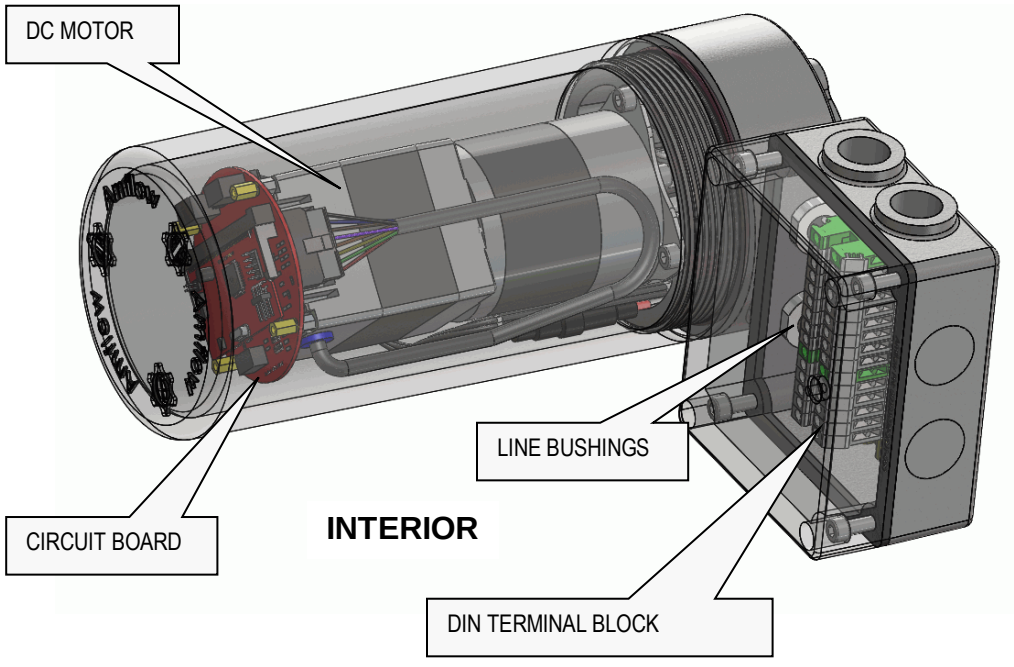
1.12 ASSEMBLY VIEW: Motor Housing Assembly





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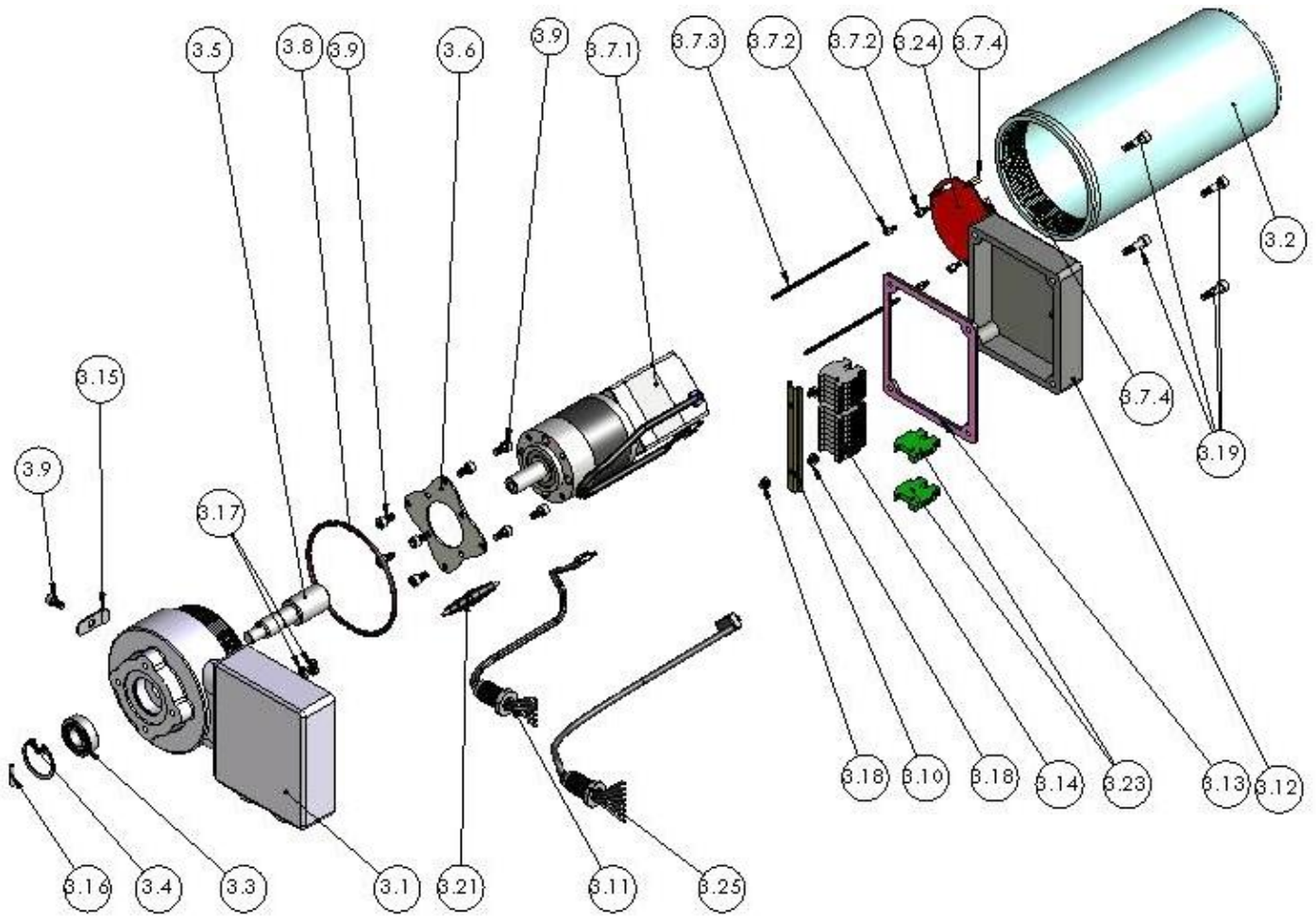
1.12a EXPLODED VIEW: Motor Housing Assembly



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1.12b BOM: Motor Housing Assembly

ITEM	PART	DESCRIPTION	QTY
3	00000471-0401-000	EEx de Housing Assy	1
3.1	00000469-0301-000	EEx de Carrier	1
3.2	00000470-0301-000	Bell Housing	1
3.3	00000328-0301-000	Bearing	1
3.4	00000327-0301-000	Circlip	1
3.5	00000326-0301-000	Shaft Adaptor	1
3.6	00000473-0301-000	Motor Plate Adaptor	1
3.7	00001410-0401-001	DC Motor Assy w/Circuit Board	1
3.7.1	00000342-0301-000	DC Motor	1
3.7.2	00001130-0301-000	M3 x 5 M/F Hex Spacer	4
3.7.3	00001133-0301-001	3 mm x 70 mm Stud	4
3.7.4	00001132-0301-000	3 mm x 8 mm OAL Hex Nut	4
3.7.5	00001127-0301-007	Connector: 7 Pin	1
3.8	00001555-2153-000	EEx de Carrier O-Ring	1
3.9	00001500-7005-010-00	M5 x 10 SHCS	9
3.1	00000498-0301-000	15 mm DIN Rail	1
3.11	00000499-0301-002	Line Bushing: 7 Wire - 16 MM	1
3.12	00000501-0301-000	EEx de Cover	1
3.13	00000502-0301-000	EEx de Gasket	1
3.14	00000503-0301-000	DIN Terminal Block	13
3.15	00000494-0301-000	Safety Clamp	1
3.16	00000337-0301-000	Drive Pin	1
3.17	00001500-7105-008-00	M5 x 8 Panhead Screw	2
3.18	00001500-7104-006-00	M4 x 6 Panhead Screw	3
3.19	00001500-7005-020-00	M5 x 20 SHCS	4
3.2	00001127-0301-009	Connector: 9 Pin	1
3.21	00001139-0301-000	Fuse Holder	1
	00001140-0301-000	5A Fuse, 125/250V Slow Blow	1
3.22	00001381-0401-000	Circuit Board Assy	1
3.23	00000503-0301-001	DIN Earth Terminal	2
3.24	00001708-0301-000	Circuit Board	1
3.25	00000499-0301-003	Line Bushing: 9 Wire - 16MM	1
	00001366-0301-000	Ferrule	17
	00000374-0301-000	Butt Connector	2

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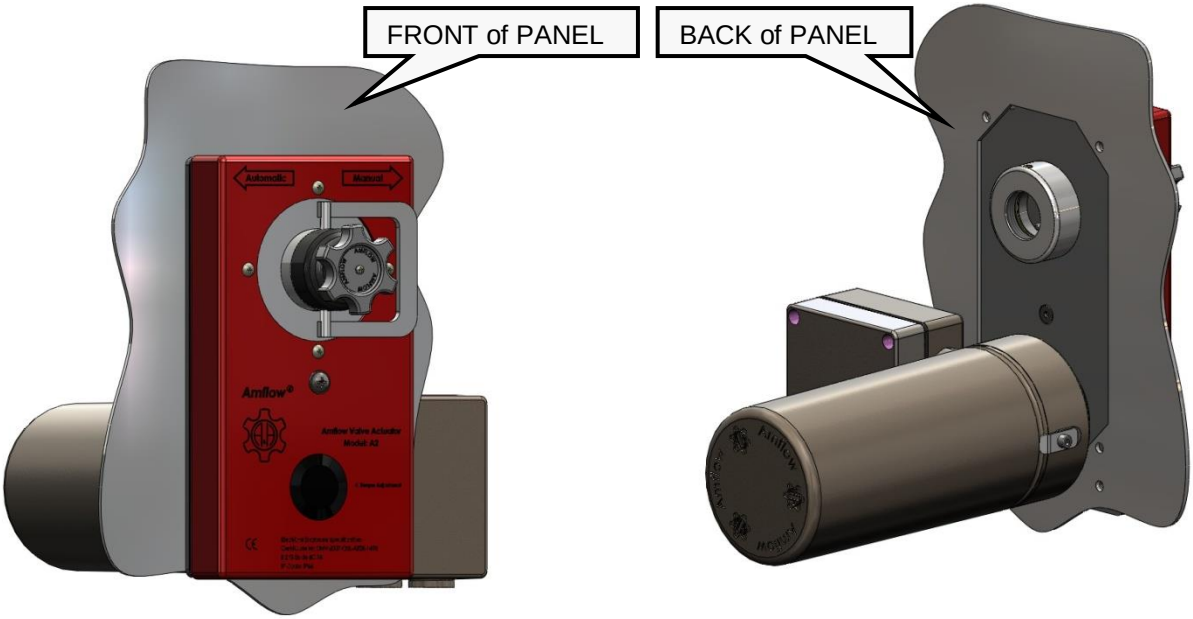
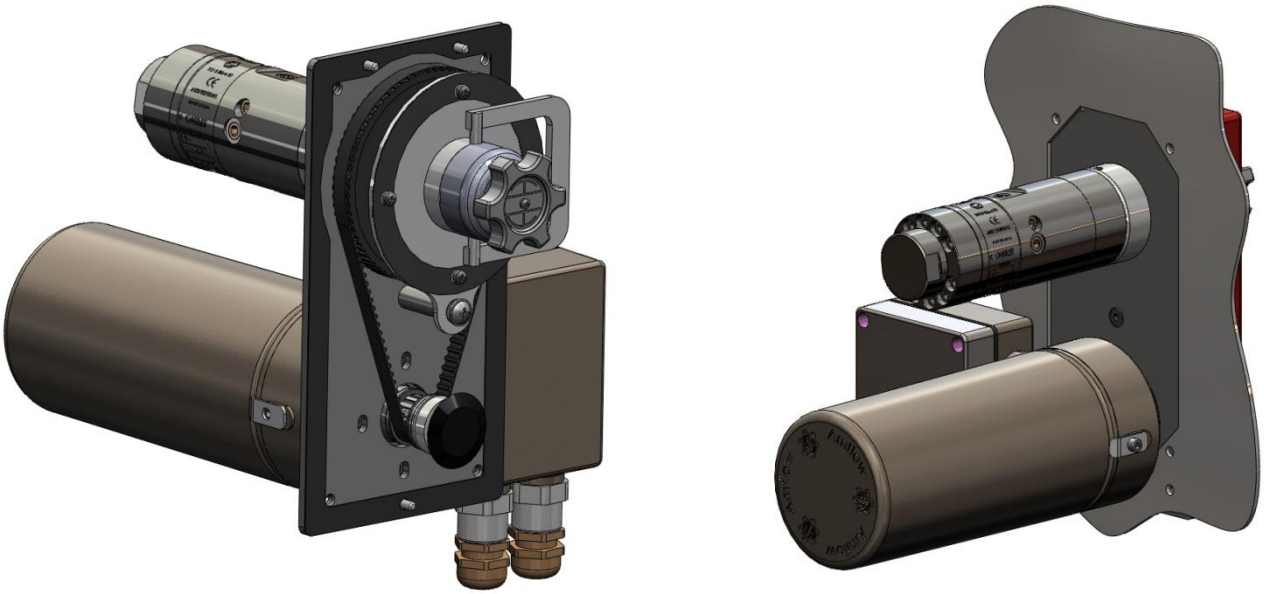
1.13 CUT-AWAY VIEW: Panel Mount



CUT-AWAY OF
AMFLOW® A2-ACM ACTUATOR
PANEL MOUNT INSTALLATION



CUT-AWAY OF
AMFLOW® A2-ACM ACTUATOR
PANEL MOUNT INSTALLATION
Shown without front cover
and with
AMFLOW® AM7B Flow Control Valve

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1.13a PANEL MOUNT: Cut-out Dimensions

- Mount A2-ACM Actuator using four 6 mm holes located on BASE PLATE ASSEMBLY (Item 1.3). Ref. Diagram 1

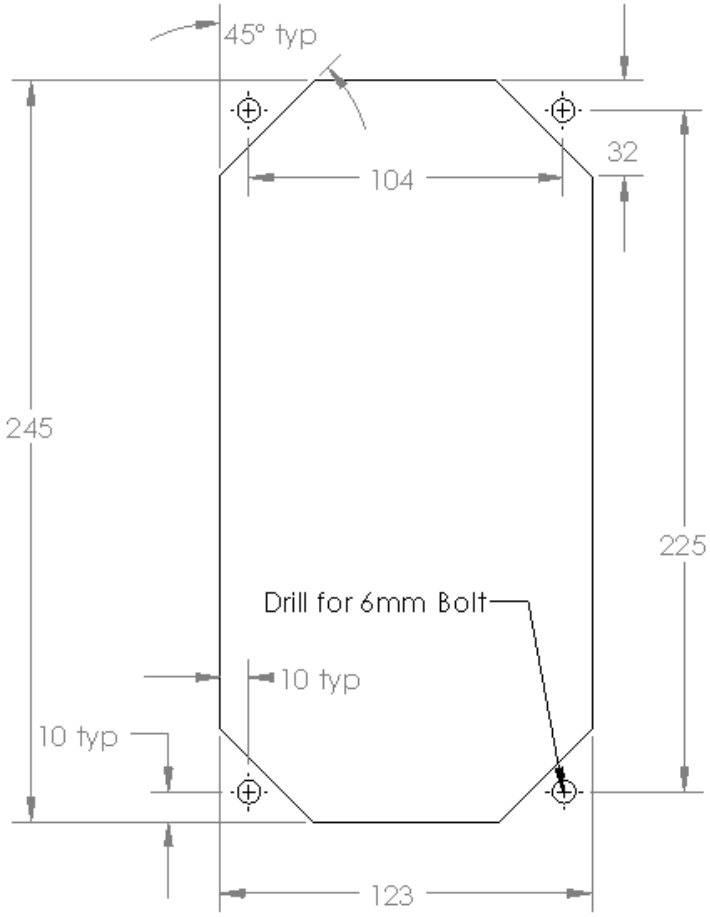

DIAGRAM 1: A2-ACM Actuator BASE PLATE ASSEMBLY (Item 1.3)

END OF SECTION

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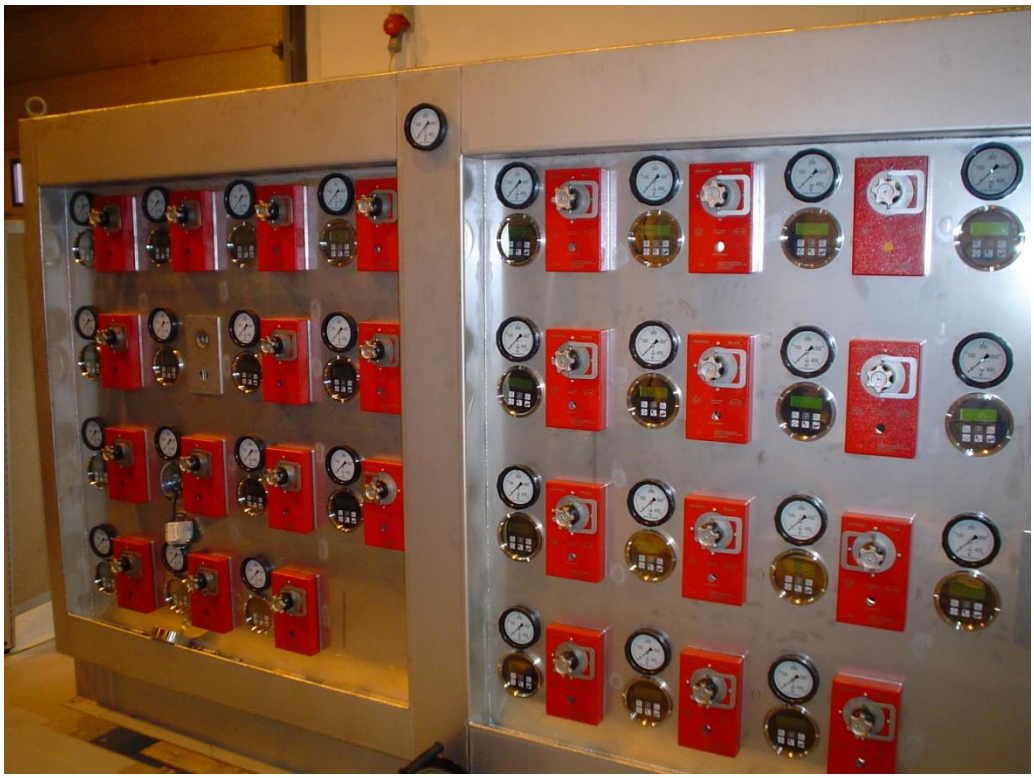
SECTION 2: INSTALLATION: Actuator

2.01 INSTALLATION PRECAUTIONS

- Be careful when handling actuator, if dropped internal electronics may be damaged.
- Do not change manufacturer's torque settings or unit may function incorrectly.
  - However, instructions have been supplied for torque setting adjustments if needed.

WARNING
Failure to set torque correctly may cause actuator to function improperly!

2.02 TYPICAL A2 ACTUATOR PANEL INSTALLATION



2.03 INSTALLATION: Tools

REQUIRED TOOLS:

- Bearing Grease
- 2.5 mm, 4 mm, 6 mm Allen Wrench
- Phillips & Flathead Screwdriver

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2.04 INSTALLATION PROCEDURE: Actuator

The fully assembled ***AMFLOW***® A2-ACM Actuator includes:

- (1) Belt Drive Assembly Ref. FIGURE 1
- (1) EEx de Assembly Ref. FIGURE 2

FIGURE 1

FIGURE 2

Step 1

- Cut out panel for mounting actuator per Section 1.09 and 1.10.

Step 2

- Mount actuator to panel using four M6x16 SHCS (Item 4).

Step 3

- Prior to installing valve, confirm HANDLE (Item 1.1.12.1) is in manual position (facing right).

END OF SECTION

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SECTION 3: INSTALLATION: Valve

3.01 VALVE INSTALLATION PRECAUTIONS

Good system design is critical to the optimum operation of the ***Amflow®*** Valves. At a minimum, the design should include:

- Isolation valves located near inlet and outlet ports of the ***Amflow®*** Valve. (The outlet isolation valve is normally a three-way valve that can be incorporated into the calibration loop.)

⚠ **IMPORTANT:** The importance of proper media filtering cannot be overstated. It is **strongly** recommended that filters be placed on both the suction side and the pressure side of pump. It is not unusual to have individual filters inline for each valve. The recommended micron size of the high-pressure filter is somewhat dependent on the specific configuration of any given ***Amflow®*** Valve. However, a 50-micron filter size is generally adequate for most applications.

- The system design should take into consideration that materials which come into contact with the injected media should not contribute to foreign matter entering into the system. This means it is unwise to use material that can be easily corroded, such as mild steels.

- A check valve located on the outlet side of each ***Amflow®*** Valve is strongly recommended. There are a number of reasons for this:
  - The first and most obvious is for safety considerations.
  - The second is to prevent a massive backflow through the ***Amflow®*** Valve.

This backflow can occur if there is a pump failure or some other system failure that would cause a loss of positive pressure across the ***Amflow®*** Valve. The ***Amflow®*** Valve is designed to accommodate some backflow conditions; ⚠ however, piston seal damage can occur if backflow is excessive. The seal is designed to fail under certain conditions in order to prevent damage that is more serious to the valve.

NOTE: Reference Installation, Operation & Service manual supplied with valve order for information.

3.02 INSTALLATION PROCEDURE: Valve to Actuator

Step 1

- Mount BASE PLATE ASSEMBLY (Item 1.3) to front of panel using four (4) M6x16 SHCS (Item 4).

Step 2

- Line up stem of valve with center hex hole on adapter then thread in valve. Ref. FIGURE 1
  - Tighten SETSCREW (Item 1.13). Ref. FIGURE 2

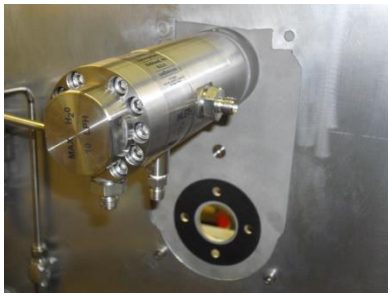

FIGURE 1

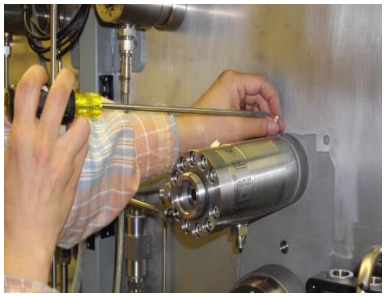

FIGURE 2

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SECTION 4: SERVICE: Valve Removal

BEFORE CARRYING OUT NEXT ACTIONS

1. Close down system or isolate valve to be removed.

2. Vent all pressure.

4.01 VALVE REMOVAL FROM SYSTEM

Step 1

- Disconnect tubing from Inlet and Outlet ports.

Step 2

- Loosen 6mm SET SCREW (Item 1.13) located on back of BASE PLATE (Item 1.3.1), using a flathead screwdriver. Ref. FIGURE 1

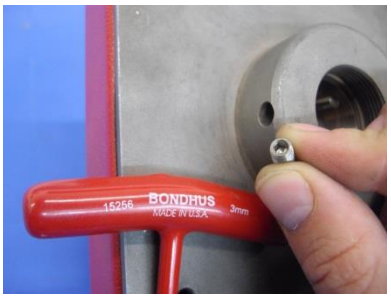

FIGURE 1

Step 3

- Remove valve.

4.02 OPENING VALVE PROCEDURE

For maintenance & service of valve, please reference the Installation, Operation & Service Manual for the specific valve provided with order.

END OF SECTION

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SECTION 5: SERVICE: Adjustments

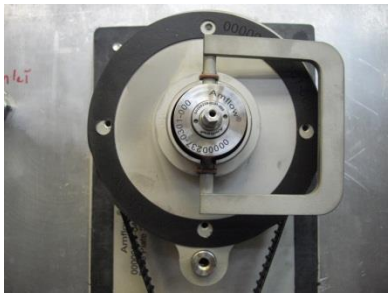
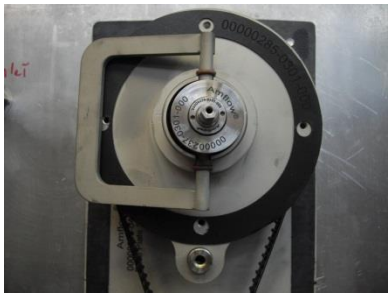
5.01 CHECK TORQUE

Step 1

- Unscrew and remove M6x10 FH SCREW (Item 1.15).
  - Remove COVER HOUSING (Item 1.2) by removing all four (4) M4x8 PH SCREWS (Item 1.8).

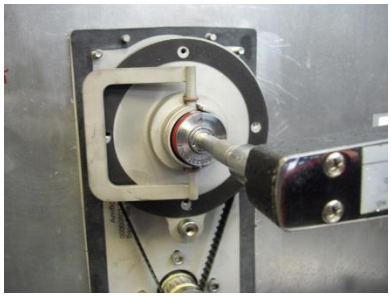
Step 2

- Rotate HANDLE (Item 1.1.12.1) from manual (facing right) to automatic (facing left).

Step 3

- Place torque wrench with 6mm drive socket on end of SHAFT ADAPTER (Item 2).
  - Be sure SHAFT ADAPTER (Item 2) spins between 6.7 and 9 newton meters (60-80 in lbs.).



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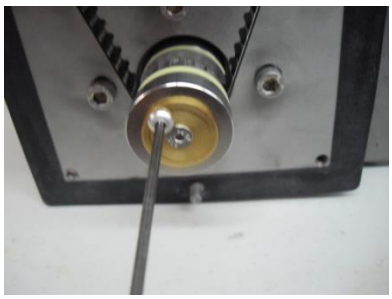
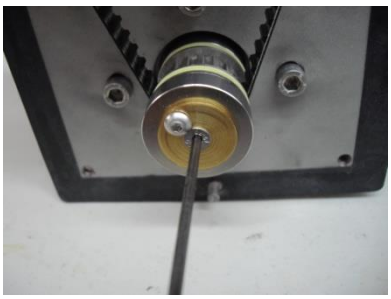
5.02 TORQUE ADJUSTMENT (if needed)

Step 1

- Using a 2.5mm Allen wrench, loosen M4x6 BH SCREW (Item 1.12.9):
  - Adjust M4x10 FH SCREW (Item 1.12.8) located on front of clutch assembly.
  - Turn clockwise to increase torque or counter-clockwise to decrease torque.
  - Tighten down M4x6 BH SCREW (Item 1.12.9).





NOTE

When adjusting torque setting between 6.7 and 9 newton meters (60-80 in lbs.) be sure PULLEY BELT (Item 1.4) rotates with SHAFT ASSEMBLY (Item 1.1.3).

If PULLEY BELT (Item 1.4) does not rotate between 6.7 and 9 newton meters (60-80 in lbs.) reference Section 11.

Step 2

- Replace COVER HOUSING (Item 1.2).

Step 3

- Ensure HANDLE (Item 1.1.12.1) is in manual mode (facing right).

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SECTION 6: SERVICE: REPLACEMENTS - Gaskets

6.01 REPLACEMENT: Front Gasket

Step 1

- Remove BASE PLATE ASSEMBLY (Item 1.3).

Step 2

- Apply FRONT GASKET (Item 1.1.11) onto front of BASE PLATE ASSEMBLY (Item 1.3).
  - Be sure holes of FRONT GASKET (Item 1.1.11) align to studs of BASE PLATE ASSEMBLY (Item 1.3).

Step 3

- Reattach BASE PLATE ASSEMBLY (Item 1.3).

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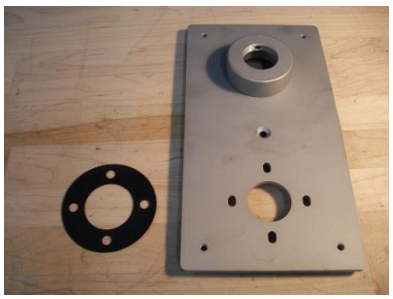
6.02 REPLACEMENT: Motor Gasket

Step 1

- Remove BASE PLATE ASSEMBLY (Item 1.3).

Step 2

- Turn BASE PLATE ASSEMBLY (Item 1.3) over to the opposite of the side with laser markings, then;
  - Remove old MOTOR GASKET (Item 1.14),
  - Align holes of new MOTOR GASKET (Item 1.14) to holes on BASE PLATE ASSEMBLY (Item 1.3),
  - Press into place.



Step 3

- Reattach BASE PLATE ASSEMBLY (Item 1.3).

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SECTION 7: SERVICE: REPLACEMENTS

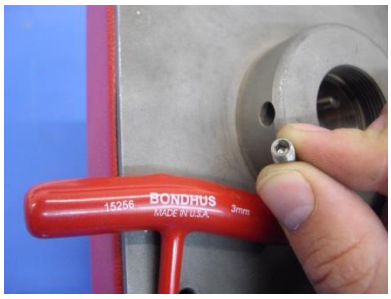
7.01 REPLACEMENT: Set Screw

Step 1

- Locate BASE PLATE ASSEMBLY (Item 1.3).

Step 2

- Turn BASE PLATE ASSEMBLY (Item 1.3) over to the opposite of the side with laser markings.
  - Remove and replace SET SCREW (Item 1.13).



7.02 REPLACEMENT: Circuit Board

- In the event of circuit board replacement and/or program updates, a new circuit board will need to be installed.
  - Please contact manufacturer for instructions.

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SECTION 8: SERVICE: Clutch Drive Components

8.01 CLUTCH DRIVE: Disassembly & Replacement

Step 1

- Identify CLUTCH DRIVE ASSEMBLY (Item 1.12).

Step 2

- Using a 2.5mm hex wrench loosen M4x6 BH SCREW (Item 1.12.9).

Step 3

- Using a 2.5mm hex wrench, loosen M4x10 FH SCREW (Item 1.12.8).

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8.01 CLUTCH DRIVE: Disassembly, continued

Step 4

- Remove parts **in order**:
  - SPRING LOADER RETAINER (Item 1.12.3) — Ref. FIGURE 1
  - SPRING LOADER (Item 1.12.4) — Ref. FIGURE 2
  - BELLEVILLE SPRINGS (Item 1.12.5) **(NOTE CONFIGURATION OF SPRINGS)** — Ref. FIGURE 3
  - CLUTCH WASHER (Item 1.12.6) — Ref. FIGURE 4
  - 1st CLUTCH RING (Item 1.12.7) — Ref. FIGURE 5
  - DRIVE PULLEY ASSEMBLY (Item 1.12.1) — Ref. FIGURE 6
  - 2nd CLUTCH RING (Item 1.12.7) — Ref. FIGURE 7

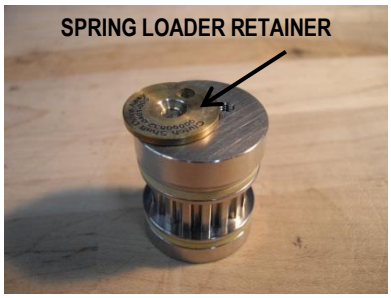


FIGURE 1

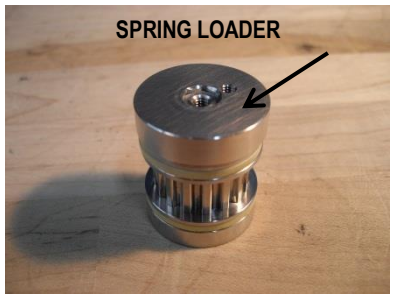


FIGURE 2

FIGURE 3

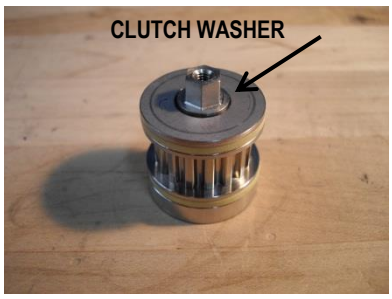


FIGURE 4

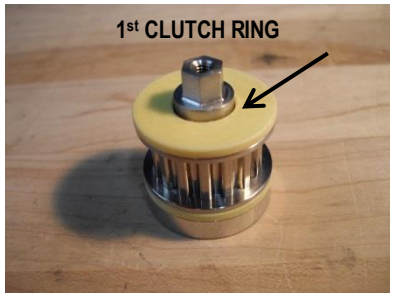


FIGURE 5

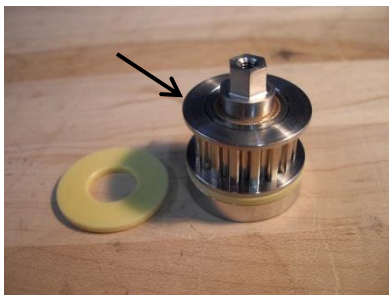


FIGURE 6

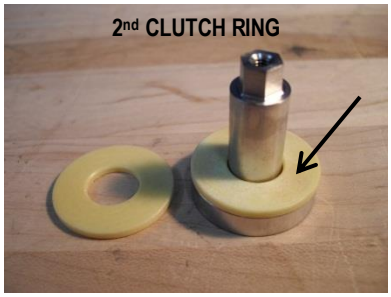


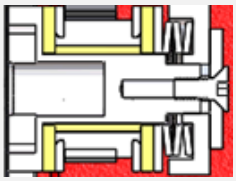
FIGURE 7

⚠ CAUTION

IMPROPER ORDER OR PLACEMENT OF BELLEVILLE SPRINGS WILL CAUSE UNIT TO MALFUNCTION.

Replace BELLEVILLE SPRINGS (Item 1.12.5) **in exact order** as removed.

- I.E: First BELLEVILLE SPRING (Item 1.12.5) faces concave side up then reverses order (e.g.…Up, Down, Up).



Step 3

- Replace needed part(s).

Step 4

- Re-assemble reversing above procedure.
  - Pay particular attention to order and placement of BELLEVILLE SPRINGS (Item 1.12.5) .

END OF SECTION

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SECTION 9: SERVICE: Pulley Assembly

Step 1

- Remove COVER HOUSING (Item 1.2).

Step 2

- Remove following parts **in order**:
  - CARRIER CAP (Item 1.1.5) Ref. FIGURE 1
  - LOCK NUT (Item 1.1.7) Ref. FIGURE 2
  - BEARING NUT (Item 1.1.8) Ref. FIGURE 3
  - BEARING (Item 1.1.9) Ref. FIGURE 4
  - HANDLE (Item 1.1.12.1) Ref. FIGURE 5
  - CARRIER RING (Item 1.1.2) Ref. FIGURE 6
  - BEARING PLATE (Item 1.1.13) Ref. FIGURE 7
  - BEARING (Item 1.1.9) Ref. FIGURE 8

FIGURE 1

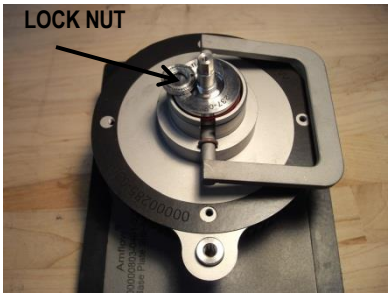

FIGURE 2

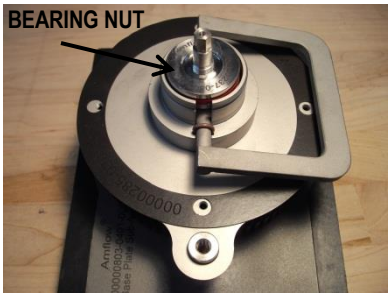

FIGURE 3

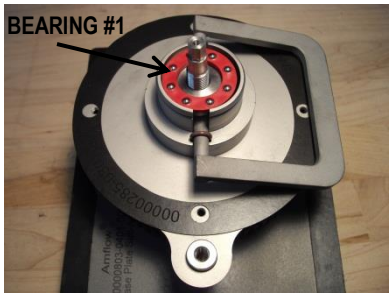

FIGURE 4

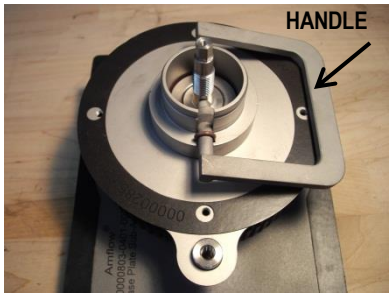

FIGURE 5

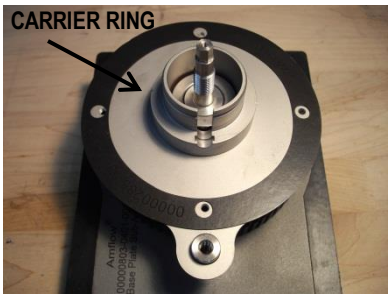

FIGURE 6

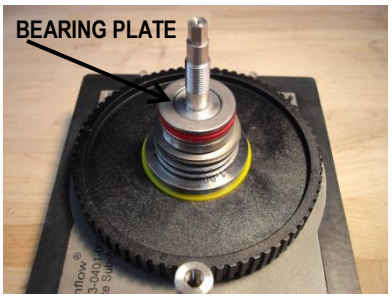

FIGURE 7

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9.01 REPLACEMENT: Bearing

Step 1

- Remove and replace BEARING(s) (Item 1.1.9).

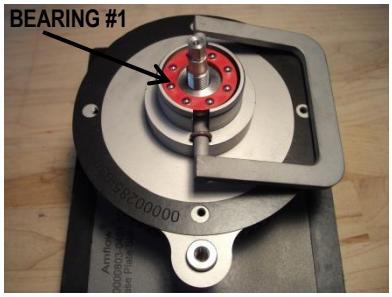


FIGURE 8

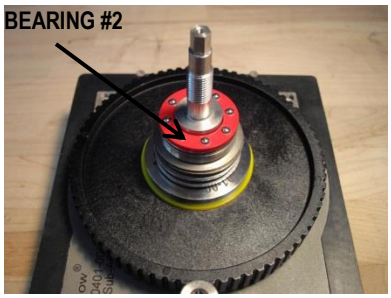


FIGURE 9

9.02 REPLACEMENT: Belleville Springs

Step 1

- Remove and replace BELLEVILLE SPRINGS (Item 1.1.15).
  - **IMPORTANT:** When replacing BELLEVILLE SPRINGS pay particular attention to order and placement of BELLEVILLE SPRINGS when replacing.

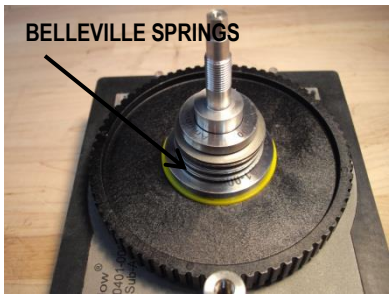


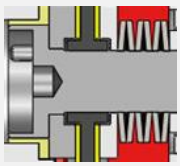
FIGURE 10

CAUTION

IMPROPER ORDER OR PLACEMENT WILL CAUSE UNIT TO MALFUNCTION

Replace BELLEVILLE SPRINGS (Item 1.1.15) in order as removed.

- I.E. First BELLEVILLE SPRING (Item 1.1.15) faces concave side up then reverses order (e.g.…Up, Down, Up, Down, etc.).



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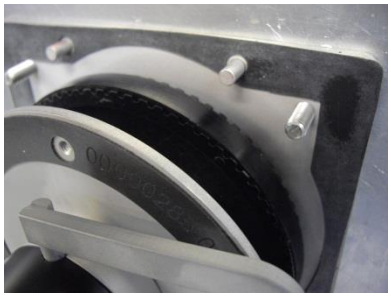
9.03 REPLACEMENT: Pulley Belt

Step 1

- Remove old PULLEY BELT (Item 1.4).

Step 2

- Place new PULLEY BELT (Item 1.4) onto CARRIER ASSEMBLY (Item 1.1);
  - then onto DRIVE PULLEY ASSEMBLY (Item 1.12.1).



Step 3

- Re-assemble any replacement of Section 9 by reversing order of disassembly.

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SECTION 11: TROUBLESHOOTING

11.01 No Power

Issue: Actuator not responding.
Cause: Blown fuse.
Correction: Check and replace fuse.

11.02 Torque Slippage

Issue: Valve not operating.
Cause: Incorrect torque setting.
Correction #1: Check that there is between 6.7 and 9 newton meters (60-80 in lbs.) rolling torque without PULLEY BELT slipping.

11.03 Unable to Obtain Newton Meter Reading

Issue: Unable to get between 6.7 and 9 newton meters (60-80 in lbs.) when adjusting torque.
Cause: Worn BELLEVILLE SPRINGS.
Correction: Replace BELLEVILLE SPRINGS.

11.04 Broken Drive Pin

Issue: Clutch Assembly not turning properly.
Cause: Broken DRIVE PIN.
Correction: Contact manufacturer.

11.05 Inaccurate Turn Count - Valve

Issue: Improper valve turn count.
Cause: Error in valve turn count.
Cause: Valve not fully opening or closing due to spinning valve.
Correction #1: Tighten SET SCREW to secure valve.

11.06 Clutch Assembly Slippage

Issue: Unable to obtain proper torque.
Cause #1: Improper torque setting.
Cause #2: Worn BELLEVILLE SPRINGS.
Correction #1: Adjust torque settings.
Correction #2: Replace BELLEVUE SPRINGS.

11.07 Valve Not Fully Engaged in Clutch Assembly

Issue: Valve not fully engaged into CLUTCH DRIVE SHAFT ASSEMBLY.
Cause: Loosen SET SCREW .
Correction: Check valve and actuator are assembled correctly.

11.08 Handle Torque Adjustment

Issue: Actuator not operating in “Automatic Mode”.
Cause: Loosen LOCK NUT.
Correction: Loosen LOCK NUT on front of SHAFT ASSEMBLY.

- Adjust BEARING NUT to desired torque.
- Re-tighten LOCK NUT.

NOTE
Large adjustments to handle torque can affect actuator rolling torque.

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STANDARDS

A&H Enterprises designs its products to meet the applicable **ASME,** and **API** standards for valve design and pressure vessels.

Products are also **CE** marked and **ATEX** approved for Hazardous area installations.

MEMBERSHIPS

CERTIFICATIONS

ATEX DIRECTIVE (94/9/EC)

In the interest of safety and quality, A&H Enterprises has certified its ***Amflow®*** series of actuators for use in potentially explosive atmospheres as defined by the ATEX Directive (94/9/EC) as Category 2G.

ATEX
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To ensure the safety of all parties, only genuine ***Amflow®*** parts must be installed in accordance with supplied instructions, good engineering, and construction practices. The actuators must not be modified in any way from the original purchased actuators. The actuators must only be operated in the conditions indicated on product data sheet. This equipment is certified for Group 2 Category II. Equipment should not be used in systems requiring a higher level of certification.

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